Subject: Integrated use of fire

Date: 13 Feb 05

Ok now it's time to put it all together into an integrated workable solution:

We have all talked about cooking, water distillation, hot water for showers, charcoal making (for water filtering, etc), drying wet wood, blacksmithing, and making wood gas to run small engines like an eclectic generator. They all have in common the need to make lots of hot heat.

What if we designed something that would do all these things at once and use as input bio-mass or wet wood, coal, tar, or organic scraps of plants, garbage, etc.? We know that storage of enough gasoline to run a generator for any length of time is nearly imposable. Converting a gasoline generator to run off wood gas is doable and documented.

Right now I am visualizing several chambers made of metal, fire brick or clay. The chambers surround each other to produce a gradient of temperature from really hot to not so hot. Hottest part of the fire would produce the wood gas and make charcoal as a result. It would also be accessible for blacksmithing. Surrounding this inner hot chamber would be an outer chamber that would concentrate on cooking, water distillation and drying of wood. The hot water for showers would come from the process of using the abundantly available low quality water to cool steam during distillation. Out side of this chamber would be more fire wood or bio-mass that is being heated and dried out for burning. The ashes would be used to make soap and fertilizer etc.

Does any one have any thoughts on this in general or about how to optimally design and build this in a primitive environment out of commonly available materials?